

Application No. 10/519,681

Reply to final Office Action of August 4, 2008

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Cancelled).

Claim 2 (Previously Presented): The method according to Claim 12, wherein the desulfurization conditions satisfy the following formula (2):

$$1.19 \times P_{opc}^{0.35} < T_{opc}/T_{50} < 1.68 \times P_{opc}^{0.24} \dots (2).$$

Claims 3-4 (Cancelled).

Claim 5 (Previously Presented): The method according to Claim 12, wherein the metallic desulfurizing agent is a nickel-copper-based desulfurizing agent.

Claim 6 (Previously Presented): The method according to Claim 12, wherein the liquid hydrocarbon comprises at least one member selected from the group consisting of a gasoline fraction, a kerosene fraction, and a gas oil fraction.

Claims 7-11 (Cancelled).

Claim 12 (Previously Presented): A method for producing a desulfurized liquid hydrocarbon, comprising:

identifying distillation characteristics of a liquid hydrocarbon;

selecting desulfurization conditions based on the distillation characteristics of the liquid hydrocarbon; and

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contacting the liquid hydrocarbon with a metallic desulfurizing agent under the desulfurization conditions to obtain the desulfurized liquid hydrocarbon;

wherein:

selecting the desulfurization conditions comprises selecting conditions satisfying the following formula (1):

$$1.06 \times P_{\text{ope}}^{0.44} < T_{\text{ope}}/T_{50} < 1.78 \times P_{\text{ope}}^{0.22} \quad (1)$$

wherein

T_{ope} represents operation temperature in °C;

P_{ope} represents operation pressure in MPa; and

T_{50} represents a temperature per 50 percent recovered as determined by the "test method for distillation at atmospheric pressure" provided in the standard JIS K2254 "Petroleum products – Determination of distillation characteristics" as revised in 1998.

Claim 13 (Currently Amended): The method according to Claim 12, wherein:

~~hydrogen addition is not employed while removing sulfur content; and~~

the metallic desulfurizing agent ~~comprises~~ includes a porous inorganic oxide and a metallic element ~~comprising~~ including at least nickel (Ni) supported on the porous inorganic oxide ~~thereon~~.